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## Keywords

Lewis Binford, New Archaeology, theory, anthropology

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# Lewis Binford and the New Archaeology

by Harry Lerner

## Abstract

The role of archaeology in the broader field of anthropology has grown from mere travelogues making no contribution to further our understanding of the past, to detailed scientific analyses forming a permanent complex bond between the two fields of endeavor.

The leading figure in the discipline responsible for the formation of this bond is Lewis R. Binford. He envisions a pivotal role for archaeology in the piecing together of cultural puzzles, and his vision has become what is termed the New Archaeology.

The New Archaeology embodies Binford's beliefs that if the discipline is to grow a system of testing and re-evaluation must be in place, and that there must be a greater level of tolerance of new ideas and perspectives. Binford believes that only in this way will archaeology achieve the status of archaeology as anthropology.

## Introduction

Archaeology's objectives are narration and explanation. It is allied to both history and anthropology, to history as both strive to present an account of events and people of the past and to anthropology as both by means of a comparative point of view attempt to understand the past through explanation of its contents.

The procedures of archaeology are at the same time particularistic and more general in their objectives, from the description and categorization of material remains to cross-cultural comparison and the delineation of culture patterns.

This interrelationship can be understood when it is realized that the two chief aims of archaeology are co-dependent. Explanation and comparison cannot be accomplished until some descriptive data become available, and description and categorization cannot reliably be done without some degree of explanation and interpretation.

## A Brief History

American archaeology, as the term would

suggest, is the archaeology which is geographically limited to the Americas and all associated island groups. This, however, does not imply development in total isolation from its Old World counterpart. In fact many parallels can be drawn between the two fields of research. These include the early focus of interest on two main areas of study, in the Americas on the Aztec and Maya of Central America and on the simpler aboriginal cultures of North America, and the influences of new schools of thought like Darwinian evolutionism. Parallels continue to be seen between these fields in method and objective alike.

The *Speculative Period* of American archaeology, the first of four general stages of development in this field, first flourished in the latter half of the fifteenth century and persisted for some three-hundred and fifty years. This period consisted primarily of armchair speculation about the origins of the New World inhabitants. The bulk of knowledge collected during this time came from the writings of travelers and explorers and the very few actual surveys done during this period. The former sources consisted solely of first hand accounts of all that was seen and heard, while actual archaeological intent inspired the latter. The collectors of this knowledge having no scientific method to fall back onto utilized theological explanations to reconstruct the past of the New World.

The second stage, the *Classificatory-Descriptive Period*, although not entirely abandoning the practice of academic speculation, saw a shift in the intent of the archaeological worker from mere documentation to detailed description and some level of classification. Throughout this period there was an increase in the volume of material remains found and documented, but still lacking was a chronological framework within which to order this new found information. The approximately seventy-five years of this period were largely characterized by the collection and accumulation of great quantities of data. The subsequent stage of archaeological pursuit saw the incorporation of a time scale into the classificatory process.

The *Classificatory-Historical Period* marks the introduction of chronologies as a method for ordering and interpreting material

remains.

The name of the period, historical, carries the implication at least insofar as the minimum of history is a time-ordering of events. [Willey and Sabloff 1974: 88]

This period can be further identified with what is termed the Stratigraphic Revolution in archaeological technique. This revolution is simply the advent of stratigraphic excavation, the treatment of an archaeological site in terms of different levels of occupation. This new approach lent a time frame to the material remains recovered, and in tandem with the newly instituted concept of seriation, the mapping out of stylistic trends and fads within the archaeological record, the foundation for a chronologically based analysis was laid.

Culture-historical syntheses were also a part of this period but they were somewhat limited in scope for they were, for the most part, based solely on artifact sequences. The latter half of this period was guided by the consideration of factors other than the chronological ordering of material remains. Prior to and up until this time archaeology, in general, had been relegated to the fringes of anthropology's cultural mainstream which was considered the birthplace of insight and the center for theory building.

The role of archaeology at this time would have continued unchanged had it not been for a handful of archaeologists who challenged the status quo by suggesting it was possible that archaeology could provide pieces of a cultural puzzle that ethnology simply could not. This suggestion sparked the trends that would be seen in archaeology for decades to come.

These trends were the growing emphasis being placed on the context and function of cultural relics, and the increase in confidence with which some archaeologists speculated about associated cultural processes. Speculation on cultural issues became more respectable within the archaeological community with the recognition of the value of traces of human activity other than the material remains themselves. Physical context and settlement patterns are able to shed considerable light on various human actions and relationships, and in conjunction with the technological innovations occurring within other scientific disciplines at this time a whole new realm in the study and analysis of physical remains unfolded before the archaeologist.

This realm became the foundation of American archaeology in the following years of the *Explanatory Period*. The shift in the aims of archaeology was based on the re-emergence of evolutionary ideas long since disfavored by the socio-anthropological establishment. The small

number of advocates of cultural evolutionary theory included, among others, Leslie White and Julian Steward, who in the middle of the nineteen-fifties introduced to American archaeology unilinear, general and multi-linear, ecological evolutionary theories respectively.

(White stated) ... general evolution ... (treats) progress as a characteristic of culture in general ... (whereas Steward believed) ... that ecological adaptation was crucial for determining the limits of variation in cultural systems. [Trigger 1989: 290-91]

These attempts to account for the development or progress of culture were suggested as alternatives to the long held view that culture and history inextricably connected and that the mere description of historic-cultural events sufficed as a gauge of cultural growth and development.

These descriptions amount to the chronologies religiously mapped out during the Classificatory-Historical Period. The chronology having been the focus of archaeological investigation for many years predisposed the archaeological community to accepting the re-instatement of evolutionary concepts. The greater attention being paid to the more general processes behind culture lead to a closer and more complex relationship between archaeology and anthropology. The Explanatory Period can then be seen to encompass considerable growth, in several directions, of the ability and potential of American archaeology to provide insights into cultural dynamics and process. The continuation of such growth resulted in the establishment of the 'New Archaeology'. The New Archaeology represents a synthesis of both revised older concepts and newer recently introduced ideas. Cultural evolution, though having been around for quite some time, was now back in favour among anthropologists and archaeologists alike and became the foundation of the New Archaeology. Systems theory, another throwback to the earlier days of anthropology, took on new significance in light of the evolutionary framework established during the latter half of the Classificatory-Historical Period. Cultural-ecology as well as the notions of context and function also took on increasingly pivotal roles in the interpretative process. Concepts which were just being introduced in academic circles, like the longer held notions, had their place in the larger structure of the New Archaeology.

The idea of modern ecology and eco-systems brought the importance of context and function to a much larger scale, and the development of computer technology allowed for more precise statistical examinations and material analyses. All of these concepts and

technologies helped to establish a more scientific approach to the study of man and culture, and this approach **was** the New Archaeology.

## Lewis R. Binford and the New Archaeology

It is generally agreed that there was one archaeologist who was truly successful in bringing these concepts together;

Without much question the archaeologist responsible for this synthesis, which made the New Archaeology possible and which marks the threshold of the Explanatory Period is Lewis R. Binford. [Willey and Sabloff 1974: 186]

Lewis Binford, who now holds the position of Professor Emeritus at the University of New Mexico in Albuquerque, questioned the assumption of the nineteen-sixties and before that the bulk of the information one can derive from the archaeological record is restricted to technological and economic subject matter. He believes that artifacts should be seen as products of whole cultural systems composed of subsystems functionally associated with one another, and that they can provide insights into the social structure and religious beliefs, among other aspects of their producers' lives.

Lewis Binford's opinion as to the cause of this imbalance in the information retrieved from the archaeological record is that it is not so much the nature of the data as it is the lack of appropriate interpretative skills on the part of the archaeologist. Archaeology has made many contributions in the area of explication or description, but up until the nineteen-sixties has made very few strides toward the explanation of newly acquired data. Binford states;

... archaeologists ... do not conceive of archaeological data in a systemic frame of reference. Archaeological data are viewed particularistically and 'explanation' is offered in terms of specific events rather than in terms of process. [Binford 1962: 217]

Binford believes archaeologists have always assumed that artifacts, regardless of their functional content, can be seen as comparable cultural traits and therefore can be used as a basis for the delineation of patterns of continuity among local or regional human populations. This would, at first glance, seem to contradict his initial claim that explanation was rarely attempted by archaeologist prior to nineteen-sixty, however the assumption about the possible inferences drawn

from the artifactual remains overlooks the significance of the context of the artifacts within the particular cultural sub-system to which they pertain, how they are articulated with the rest of the system and the differences and similarities in these relationships between spatially separated archaeological complexes. It is these factors, Binford believes, which potentially hold valuable information concerning the true nature of social systems.

Binford's work showed a concern with the cultural subsystems which are dependent on biological process for change and definition, and which function to adapt the individual to his or her physical and social environment. Binford wrote;

... we assume a systematic relationship between the human organism and his environment in which culture is the intervening variable. [Binford 1962: 218]

He feels that the material items from the archaeological record in conjunction with the contextual inter-relationships represent an understandable picture of the total cultural system, and in furthering this contention Binford has distinguished between three essentially different artifact types. *Technomic* artifacts are those which were directly involved in the process of coping with the environment. The nature of these artifacts can shed considerable light on the prevailing conditions of past environments, providing a basis for the interpretation of other aspects of culture. *Socio-technic* artifacts are those which pertain to the social sub-systems of the total cultural system. These artifacts are the physical remains of the means by which individuals in society were articulated with one another allowing them to function effectively as a group, therefore the form and structure of these artifacts reflect the form and structure of the social system. The third type, *Ideo-technic* artifacts, are those which pertain to the ideological cultural sub-system. The symbolic framework which enables the individual to participate in society is in essence documented by these artifacts as they were used during the participatory process. Binford recognized that the real value of these artifacts lay in what they can tell us about the cultural system no longer available to us for observation.

Cross-cutting these artifact types are stylistic characteristics which Binford believes provided a material environment which promoted group solidarity and identity. The boundaries drawn by the evidenced spatial extent of such stylistic characteristics can be seen to closely correlate with the boundaries between cultural areas which vary in degree of social complexity and method of adaptation. Binford believes that



with these concepts as the basis of archaeological research;

...archaeologists are in an excellent position to make major contributions to the general field of anthropology for we can work directly in terms of correlations of the structure of artifact assemblages with rates of style change, directions of style spread, and stability of style continuity. [Binford 1962: 220]

He has repeatedly stated that only when archaeologists as a group begin to view data as representative of cultural systems will many of the problems which have long plagued them be resolved.

The view held prior to the nineteen-sixties, what has been described as the normative view, was based on what was considered to be a commonly adhered to set of rules or norms, and the variations in these norms were used to account for both structural variations in the cultural system and behavioral variations between individuals. These variations can be interpreted, according to the normative theory, in terms of cultural relationships which combine to form a single model of culture. This model, as outlined by the theory, is based on the concept of a culture center where rates of change in the form and style of cultural items are highest, thus cultural relationships can be viewed as the degree of mutual influence which exists between culture centers. Binford termed this scheme

"... the aquatic view of culture." [Binford 1965: 204], as culture was perceived as a flowing stream consisting of minor variations in the rules or norms by which people conducted their lives.

Binford criticized this approach to archaeological research by stating;

The normative view leaves the archaeologist in the position of considering himself a culture historian and/or paleopsychologist (for which most archaeologists are poorly trained.) [Binford 1965: 204]

He argues that a new form of archaeological systematics based on viewing culture as a total system is needed to adequately explain cultural processes. The technological and socio-cultural sub-systems depicted by the people, items and locations of a given cultural system are articulated with one another through common cultural processes. Binford defines culture as being multi-variate, in other words as varying along more than

one dimension at the same time, therefore the archaeologist's goal is to define the causes of these variations and to try and isolate regular relationships between these causes. As a first step Binford identified within the archaeological record what he describes as *morphological* variation and *decorative* variation operating along technical and design dimensions respectively, and he saw that these variations could be categorized in terms of *primary functional* variation and *secondary functional* variation. The rates at which these two types of variables change reflect the way in which changes take place within the cultural system as a whole. Binford feels by using such a classification scheme a better understanding can be achieved of the cultural systems represented by the artifacts within the archaeological record.

Three fundamental cultural phenomena can be distinguished using these categories. The first is the *tradition* which is a "... demonstrable continuity through time in the formal properties of locally manufactured craft items..." [Binford 1965: 208] and can apply to either a single type of artifact or to several types of artifacts of a single cultural system. The second is what are termed *interaction spheres* which are regions of regular intersocietal relations, and are a means of formalizing and maintaining these relations. The scope of interaction spheres is reflected in the items exchanged between cultures. The third phenomenon, *adaptive spheres*, are the regions which exhibit a high frequency in the occurrence of artifacts used in the adaptive process. These regions would seem to coincide with those defined by the culture area concept, however the stylistic variable prominent in culture area identification is omitted from the definition of adaptation spheres. Binford summarized this systematic framework by stating;

Use of such a framework will facilitate isolation of the causes of various kinds of changes and differences and provided the basis for (the) studying (and) ...understanding of cultural processes. [Binford 1965:209]

Binford views the normative approach as very naive and limiting in interpretative scope. He saw the need within the archaeological discipline for a method for the constant re-evaluation of theories and generalizing conclusions concerning cultural processes.

## Evaluating the Paradigm

Binford attempted to formulate such a method by essentially getting back to basics. He posed the questions; 'what are data?' and 'where do

they come from?.' He answered these questions by saying:

...data are the representations of facts by some relatively permanent convention of documentation. They record the events of observation in which they participate...(and) archaeologists produce data from facts of contemporary observations on artifacts. [Binford 1987: 392]

The utility of data in the process of theory building in science is commonly judged by three basic criteria; data represent single events, these events must be open to public scrutiny, and the description of the events must be accessible to a wide range of people. Binford saw these criteria as supporting his definition of data, but cautioned against confusing implications with facts as materials from the past can be retrieved but the associated events are "... gone and no longer available for observation." [Binford 1987: 393]. This is where, Binford believes, traditional archaeologists made a collective wrong turn in their analytical

## Methodology

Traditional archaeologists, in Binford's opinion, followed the empiricism of early scientific thought and discounted theory as a useful step in the scientific process. The empiricist ideally operated with no pre-determined notions and expected knowledge to freely avail itself to him or her through experience. One claim of such an acquisition of knowledge was the concept of relativism, but Binford suggests that this was a product of the naive nature of certain types of social research. Today it is generally accepted that empiricist reasoning is indeed faulty. According to the empiricist point of view the ethnographer reporting fieldwork results imparts information, not data, as provided to him or her by a local informant. If this method of apprehending the past is the only accepted one the archaeologist would have little hope of achieving any valuable results as he or she has no informant to relate the significance of the recovered material remains. The alternative of adopting a universalistic interpretative approach has been suggested where a common human nature is sought within the past and where the search is conducted from the inside of past events, in other words from the "... human perspective..." [Binford 1987: 400]. This approach is akin, if not entirely based upon, the ideas put forth by Franz Boas years ago. It is a re-iteration of his belief that to achieve any understanding of the behavior of individuals and the relationships between them they must be viewed from the inside

looking out, from the perspective of the individual him/herself. Binford's opinion of this solution to the empiricist problem is that in its implementation the archaeologist prevents any real understanding from coming about.

The question then arises, what does the archaeologist do with his or her data? Binford advocates responsible scientific procedures which include the formulation of bodies of theory testable through a broad range of scientific experiences. He states;

Responsible learning is dependent upon the degree to which research is designed so as to expose ambiguity, inadequacy and inaccuracy in our ideas guiding both the production of data and our attempts to understand it. [Binford 1987: 403]

The New Archaeologists, in challenging traditional archaeological practice, did not advocate a specific theory but a change in paradigm. They rejected the idea that the archaeological record limited the type of information related to past cultures retrievable by the researcher, they believed the record had barely been explored at all therefore its true potential for illuminating the past was unknown. The increased field of view offered by this new interpretation of the archaeological record required, more so than ever before in the opinion of the New Archaeologists, a means of verification of theories and models. This should be seen as a major factor in the formulation of a new paradigm as archaeologically valid views of the past are dependent on the attitudes towards the record held within the paradigm. These attitudes are the guidelines for middle-range research. New Archaeologists believe a willingness to question newly introduced concepts of culture is crucial to achieving some degree of separation between theorist and theory allowing the evaluation of theory to take place.

The challenge to science is to address directly the problem of developing methodological aids to paradigm change and evaluation, as well as the continued perfection of such aids for the evaluation and production of theories. [Binford and Sabloff 1982:139]

The ability to identify the most productive position to assume when conducting research; the perspective of the individual, the perspective from high above the cultural landscape or a perspective permitting observation of both types of social scenery, is an equally potent ingredient in inducing growth of the paradigm. Therefore paradigmatic change, from Binford's point of view,

can take place by concentrating on the different ways that culture process can be related to the static archaeological record.

## Summary

Binford is quite adamant in his views on the proper archaeological methodology to be employed to make significant contributions to the general field of anthropology possible. He is very critical of archaeologists who do not question the validity of the paradigm within which they work, for he believes that there can be no growth of the discipline if there is no re-evaluation of its theories.

The New Archaeology has fostered a number of different ways of observing and interpreting the archaeological record. One such method, as mentioned above, is middle-range research whereby "... accurate means of identification and good instruments for measuring specified properties of past cultural systems." [Binford 1983a: 49] are sought. This type of investigation is essentially the search for a common ground between scientific data and socio-cultural phenomena, in other words for a translational mechanism to render observations of material remains into reasonable conclusions concerning cultural dynamics. The traditional attitudes toward the archaeological record as a whole also changed markedly within this new paradigm. Archaeologists began to see the record for what it really was, the material remains of past cultures not the past itself, and this prompted the realization that as important as what the record has to tell the archaeologist about past cultures is how it tells it. This promoted a greater willingness to consider new interpretive models, and Binford believes that this new openness to different ideas is central to progress in this and other fields of study.

Archaeology in the nineteen-sixties as Binford saw it was stagnating and spinning its wheels. The notion that culture could be used to explain the material remains was the exact opposite of what Binford felt should be the true goal of archaeology, to use the archaeological record to explain the similarities and differences of cultures both past and present. Views such as this put forth by Lewis Binford can be seen as a catalyst in the maturing of archaeology as a scientific discipline. Binford has summarized his

thoughts as follows:

We need a science of the archaeological record. To achieve this goal, archaeologists need to continue to experiment with methods for both the production and refinement of a new paradigm appropriate to our science...then archaeology will begin to achieve the status of 'archaeology as anthropology'. [Binford and Sabloff 1982:153]

This status is Binford's wish for archaeology for he believes that archaeology and anthropology together can achieve greater success in the understanding of ourselves and our past than can either field individually.

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